

REMARKS

Claims 1-22 are all the claims pending in the application, prior to the present Amendment.

The Examiner has not acknowledged applicants' claim for foreign priority and receipt of all certified copies of the priority documents in this National Stage application. Applicants requested the Examiner to make such acknowledgments in the Amendment Under 37 C.F.R. § 1.111 filed on April 22, 2010, but the Examiner has not done so. Applicants again request the Examiner to make such acknowledgments.

Claims 1, 8 and 10 to 15 have been rejected under 35 U.S.C. 102(e) as anticipated by the newly cited US 7,153,899 Patent to Reddy et al.

Applicants submit that Reddy et al do not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

Applicants have amended claim 1 to incorporate the recitations of claims 10 and 12.

Thus, the present invention as set forth in claim 1 as amended above is directed to A graft copolymer containing polyorganosiloxane obtained by polymerizing, 1 to 8 parts by weight of a vinyl monomer (B) comprising 100 to 20% by weight of a multi-functional monomer containing at least two polymerizable unsaturated bonds in a molecule (b-1) and 0 to 80% by weight of another copolymerizable monomer (b-2) and 5 to 70 parts by weight of a vinyl monomer (C), in the presence of 30 to 95 parts by weight of polyorganosiloxane in a latex state (A), so that the total amount of polyorganosiloxane (A), vinyl monomer (B) and vinyl monomer (C) becomes 100 parts by weight. In the present invention as set forth in claim 1 polyorganosiloxane (A) is modified by a grafting agent (E), and the graft copolymer containing polyorganosiloxane is

obtained by reacting polyorganosiloxane (A), which is modified by grafting agent (E), with a grafting agent (F) and then polymerizing vinyl monomer (B) and vinyl monomer (C).

Reddy et al do not disclose or suggest the combined use of a grafting agent (E) and a grafting agent (F) in preparing the polyorganosiloxane as set forth in amended claim 1. In contrast to Reddy et al, amended claim 1 of the present application uses the grafting agent (E) and the grafting agent (F), and exhibits high flame retardancy while maintaining high impact resistance. See the present specification at page 17, lines 11 to 19.

The present specification contains evidence that the combined use of grafting agent (E) and grafting agent (F) produces unexpected results as compared to the single use of a grafting agent in preparing the polyorganosiloxane.

In particular, in Examples 24 to 26 of the present application, graft copolymers containing polyorganosiloxanes which are obtained by using grafting agent (E) and grafting agent (F) and thus are within the scope amended claim 1, are employed to prepare molded articles. The molded articles obtained by using the above-mentioned graft copolymers are superior in flame retardancy and maintain impact resistance at a high level as compared with the molded articles of Examples 27, 28 and Comparative Example 3 which are prepared from graft copolymers that do not use the grafting agent (E) and the grafting agent (F) in accordance with the present invention (Examples 27 and 28) or which do not employ any graft copolymer (Comparative Example). See Table 8 of the present specification.

By way of explanation, the graft copolymers in Examples 24 to 26 are SG-7, SG-8 and SG-9, which are prepared in Examples 19 to 21, respectively, by polymerizing a vinyl polymer (C) with polyorganosiloxanes SR-2, SR-3 and SR-4, respectively. See Table 7 of the present specification. The polyorganosiloxanes SR-2, SR-3 and SR-4 are prepared in Preparation

Examples 3, 4 and 5, respectively, by employing a grafting agent (E) (mercaptopropyldimethoxymethylsilane (MPrDMS)) and a grafting agent (F) (MPrDMS) in a total amount of 5 parts, and then reacting with vinyl polymer (B). Thus, the graft copolymer containing polyorganosiloxane in Examples 3, 4 and 5 is obtained by reacting polyorganosiloxane (A) modified by grafting agent (E) with MPrDMS as the grafting agent (F). See Table 6 of the present specification.

In contrast, the graft copolymers in Examples 27 and 28 are SG-10 and SG-11, and are prepared in Examples 22 and 23, respectively, by polymerizing a vinyl polymer (C) with polyorganosiloxanes SR-5 and SR-6, respectively. Again, see Table 7 of the present specification. The polyorganosiloxanes SR-5 and SR-6 are prepared in Preparation Examples 6 and 7, respectively, by employing a grafting agent which is the same as the mercaptopropyldimethoxymethylsilane (MPrDMS) employed in Preparation Examples 3 to 5 and in the same total amount total amount of 5 parts, and then reacting with vinyl polymer (B), but the polyorganosiloxanes SR-5 and SR-6 differ from those of Preparation Examples 3 to 5 because the polyorganosiloxanes SR-5 and SR-6 are not obtained by reacting polyorganosiloxane (A) modified by grafting agent (E) with MPrDMS as the grafting agent (F). Again, see Table 6 of the present specification.

As can be seen from the above, the results of Examples 24 to 26 are unexpected and surprising from Reddy et al who do not teach the combined use of the grafting agent (E) and the grafting agent (F). Therefore, claim 1 as amended is not obvious over Reddy et al.

In view of the above, applicants submit that Reddy et al do not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

Claims 1, 8, 10 to 15 have been rejected under 35 U.S.C. 102(b) as being anticipated by the newly cited US Patent 4,939,206 to Wang.

Applicants submit that Wang does not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

Wang, similar to Reddy et al, does not disclose or suggest the combined use of a grafting agent (E) and a grafting agent (F) in preparing the polyorganosiloxane as set forth in amended claim 1. In contrast to Wang, amended claim 1 of the present application uses the grafting agent (E) and the grafting agent (F), and exhibits high flame retardancy while maintaining high impact resistance. See the present specification at page 17, lines 11 to 19.

As discussed in detail above, the present specification contains evidence that the combined use of grafting agent (E) and the grafting agent (F) produces unexpected results as compared to the single use of a grafting agent in preparing the polyorganosiloxane.

As can be seen from the above, the results of Examples 24 to 26 are unexpected and surprising from Wang who does not teach the combined use of the grafting agent (E) and the grafting agent (F). Therefore, claim 1 as amended is not obvious over Wang.

In view of the above, applicants submit that Wang does not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

Claims 2 to 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al, or Wang as applied to claim 1 above, and further in view of JP 2002- 201243.

In addition, claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al or Wang as applied to claim 1 above, and further in view of Higaki et al.

Since claims 2 to 7 and 9 are dependent claims that depend from claim 1, applicants rely on the arguments set forth above for claim 1 to support the patentability of claims 2 to 7 and 9.

In view of the above, applicants request withdrawal of these rejections.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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